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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/400,568	09/21/1999	JOSEPH C. FLOYD	96B037/3	3555

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EXAMINER

CHEUNG, WILLIAM K

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 07/31/2002

17

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/400,568	Applicant(s) FLOYD ET AL.	
	Examiner William K Cheung	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The examiner acknowledges the receipt of amendment (Paper No. 16) filed June 27, 2002. Claims 10-20 are pending.
2. In view of amendment (Paper No. 16) filed June 27, 2002, the rejection of claims 10 -20 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Jejelowo (US 5,359,015) is withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 10, 12, 14, 18-20 stand rejected under 35 U.S.C. 102(b) as anticipated by Jejelowo et al. (US 5,470,811).

*The invention of claims 10, 12, 14, 18-20 relates to a **polymer** produced using a process comprising providing a **bridged metallocene catalyst** wherein the catalyst is a **Group 3-6 metallocene catalyst** compound comprising a **pi-bonded ring having one or more C₃ or greater hydrocarbyl, hydrocarbylsilyl or hydrocarbylgermyl substituents bonded to the ring through a primary carbon atom**; and when the compound contains **two pi-bonded rings, the total number of substituents on the rings is equal to a number from 3 to 10, and when the number of substituents is 3 or 4 the rings asymmetrically substituted** wherein the polymer has a melt index ratio (**MIR**) **less than 35**, and a comonomer distribution breath Index (**CDBI**) equal or greater than 60.*

Jejelowo et al. (col. 23, Table 4, example 32) in example 32 indicate an ethylene-hexcene copolymer product having a MIR of 21.6, CDBI of 67 and melt strength of 5.25 which satisfy the conditions set forth in claims 10 and 20. Since the ethylene copolymer as disclosed in example 32 contains all the material properties of claims 10, 12, 14, 18-20, the invention of claims 10, 12, 14, 18-20 are anticipated.

Although there is a minor difference in the type of substituents requirement between the claimed catalyst system and the disclosed catalyst systems of Jejelowo et al., the polymer product of example 32 contains all the material properties being claimed. In re Thorpe, 777F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) "[E]ven

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though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

2113 Product-by-Process Claims

PRODUCT-BY-PROCESS CLAIMS ARE NOT LIMITED TO THE MANIPULATIONS OF THE RECITED STEPS, ONLY THE STRUCTURE IMPLIED BY THE STEPS

“[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.”

In re Thorpe, 777F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (citations omitted) (Claim was directed to a novolac color developer. The process of making the developer was allowed. The difference between the inventive process and the prior art was the addition of metal oxide and carboxylic acid as separate ingredients instead of adding the more expensive pre-reacted metal carboxylate. The product-by-process claim was rejected because the end product, in both the prior art and the allowed process, ends up containing metal carboxylate. The fact that the metal carboxylate is not directly added, but is instead produced in-situ does not change the end product.).

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Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 11, 13, 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jejelowo et al. (US 5,470,811).

Set forth from paragraph 4 of instant office action, the ethylene copolymer of Jejelowo et al. is substantially identical to the ethylene copolymer being claimed in claim 19.

Jejelowo et al. (col. 23, Table 4, examples 30, 31) disclose the polymerization of ethylene with comonomer hexcene using a catalyst system comprising catalysts A, with B or C containing cyclopentadienyl ligands containing 2 or more primary carbon type substituents. Further, the disclosed examples 30, 31 indicate ethylene copolymer products having a MI of 0.86-0.91, MIR of 20.7-23.2, melt strength of 10.9-12.1 which satisfy the conditions set forth in claim 10.

The difference between the invention of claims 11, 13, 15-17 and the disclosure to Jejelowo et al. is that Jejelowo et al. are silent on an ethylene copolymer having a CDBI of 67 in examples 30, 31. Further, there is a minor difference in the substituents requirements on the cyclopentadienyl ligands being claimed and disclosed in Jejelowo et al.

Although Jejelowo et al. in working examples of examples 30, 31 do not contain a CDBI values of the corresponding ethylene copolymers, however, in view of the CDBI value disclosed in example 32 which involves using a substantially similar catalyst system employed in examples 30, 31, it would be apparent to one of ordinary skill in the art to expect the untested samples of examples 30, 31 to have a similar CDBI value as disclosed in example 32. Motivated by the expectation of success of producing ethylene copolymers of examples 30, 31 with bimodal molecular weight distribution properties (col. 3, line 17), it would have been obvious to one of ordinary skill in the art to use the

polymerization teachings in Table 4 of Jejelowo et al. (col. 23, Table 4) to obtain the invention of claims 11, 13, 15-17.

Regarding the minor difference in the type of substituents requirement between the claimed catalyst system and the disclosed catalyst systems of Jejelowo et al., the polymer product of example 32 contains most the material properties being claimed. In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process."

Regarding claims 13, 15, 17 which limits the polymer composition to ethylene, Jejelowo et al. (col. 2, line 5-18) clearly indicate that the disclosed polymerization system is suitable for the polymerization of olefins, optionally with a comonomer (col. 2, line 9-10). Further, Jejelowo et al. (col. 2, line 12-13) clearly state that the catalyst of the invention provides for linear polyethylene which is a homopolymer prepared from ethylene only. Therefore, in view of such suggestion, motivated by the expectation of success of producing polymer with broad molecular weight distribution and high molecular weight (col. 2, line 9-11), it would have been obvious to one of ordinary skill in

the art to use the polymerization teachings in Jejelowo et al. to homopolymerize ethylene to obtain the invention of claims 13, 15, 17.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (703)

305-0392. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-5885 for regular communications and (703) 305-5885 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



William K. Cheung

July 23, 2002



DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700